August 31, 2015

Tracking Number: 339029
Authorization Number: 107835

REGISTERED MAIL

PRETIUM RESOURCES INC.

Suite 2300, Four Bentall Centre
1055 Dunsmuir Street
PO Box 49334, Vancouver, BC. V7X 1L4

Dear Permittee:

Enclosed is Permit 107835 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the *Permit Fees Regulation*.

This permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the Permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the Permittee to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this permit will be carried out by staff from Mining Operations. Plans, data and reports pertinent to the permit are to be submitted to the Director, Environmental Protection, at Ministry of Environment, Mining Operations, Bag 5000, Smithers, BC V0J 2N0.

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Environmental Protection Division
Ministry of Environment
Bag 5000
Smithers, BC V0J 2N0
Authorizations - North Region
Telephone: (250) 847-7260
Facsimile: (250) 847-7591

Yours truly,

Luc Lachance
for Director, *Environmental Management Act*
Mining Operations

Enclosure

cc: Environment Canada, Vancouver BC
Ministry of Energy and Mines, 3726 Alfred Avenue, Smithers, BC, V0J 2N0

MINISTRY OF ENVIRONMENT

PERMIT

107835

Under the Provisions of the *Environmental Management Act*

PRETIUM RESOURCES INC.

Suite 2300, Four Bentall Centre
1055 Dunsmuir Street
PO Box 49334, Vancouver, BC. V7X 1L4

is authorized to discharge various effluents generated by an underground mine project to Brucejack Lake at a site located approximately 60 km North of Stewart, British Columbia, subject to the terms and conditions listed below. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may lead to prosecution.

1. AUTHORIZED DISCHARGES

1.1 Cumulative Compliance Requirements

The Permittee must manage the operations and authorized discharges in Sections 1.2, 1.3, 1.4 and 1.5 that follow, such that water quality at the outlet of Brucejack Lake (monitoring site BJ 3.10) meets the maximum concentrations specified in Section 1.1.1 throughout the Construction and Operations phases of the project. The site reference number for this discharge is E298312.

1.1.1 The characteristics of the Brucejack Lake Outlet (BJ3.10) must be equivalent to or better than:

Parameter	Maximum (1)	Units
48 hr Daphnia magna single concentration toxicity test	50% Survival in 100% Concentration, Minimum (2)	Not applicable
Total Suspended Solids	30 (maximum) 15 (monthly average)	mg/L
pH	6.5- 8.5	

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Nitrite	75	µg/L as N
Nitrate	3	mg/L as N
Ammonia	1.0	mg/L as N
Sulphate	128	mg/L
Dissolved Aluminium	0.05	mg/L
Total Arsenic	5	µg/L
Total Beryllium	1	µg/L
Dissolved Cadmium	0.05	µg/L
Total Chromium (see clause 3.4)	9	µg/L
Total Copper	2	µg/l
Total Iron	1	mg/L
Total Lithium	90	µg/L
Total Lead	4.6	µg/L
Total Manganese	0.8	mg/L
Total Mercury	0.02	µg/L
Total Selenium	2	µg/L
Total Silver	10	µg/L
Total Zinc	7.5	µg/L

(1) Maximum allowable concentration in any grab sample.
(2) Refer to Section 2.1.

1.1.2 The annual average Brucejack Lake discharge rate is 50,000 m^3/day, 365 days per year.

1.1.3 The authorized works are collection works, ditches, pipes, sumps, pumps, flow monitoring and water sampling devices and related appurtenances approximately located as shown on the Site Plan A.

1.1.4 The location of the facilities from which the discharge originates is Mineral Claim 1027433. The works and various point of discharge are as shown in the attached Site Plan A.

1.2 **Treated Mine Water** and **Treated Surface Runoff**

This section applies to the discharge of **Treated Mine Water** and **Treated Surface Runoff**. The Surface runoff is mine site runoff collected via the contact water collections system located within the diversion channels shown in Site Plan A. Contact water pond runoff and Mine water from underground workings must be treated by the Construction and Operation Water Treatment

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Plants. Treated water can be used as ore processing water within the mill building in addition to being discharged to the Lake. The site reference number for this discharge is E302957.

1.2.1 The maximum rate of discharge must not exceed 10,000 m^3/day, 365 days per year.

1.2.2 The average rate of discharge is 5,300 m^3/day, 365 days per year.

1.2.3 The characteristics of the Water Treatment Plants (WTP) discharge should not exceed the following concentrations after all the water treatment processes. If these levels are exceeded, notification is required following the procedures as per Sections 5.4 and 5.5.

Parameter	Construction WTP Maximum (1)	Operation WTP Maximum (1)	Units
Total Suspended Solids	25	25	mg/L
pH	6.5 – 8.5	6.5 – 8.5	pH
Nitrite (see clause 3.1)	1.9 (max) 0.65 annual average	1.9 (max) 0.65 annual average	mg/L
Total Aluminium	0.3	0.3	mg/L
Total Arsenic	10	10	µg/L
Total Cadmium	0.3	0.25	µg/L
Total Cobalt	10	10	µg/L
Total Chromium (Section 3.4)	20	20	µg/L
Total Copper	20	10	µg/l
Total Iron	0.5	0.5	mg/L
Total Lead	5	5	µg/L
Total Manganese	3	22	mg/L
Total Silver	0.5	0.1	µg/L
Total Zinc	60	20	µg/L

(1) Maximum allowable concentration in any grab sample

1.2.4 The authorized works are a Construction and/or an Operations Water Treatment plant according to the appropriate phase of this mining project and related appurtenances as documented in the May 2015 *Environmental Management Act* Permit Application located as shown on Site Plan A.

1.2.5 The location of the facilities from which the discharge originates and the

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point of discharge is the same as Section 1.1.4 above.

1.3 Thickened Tailings Slurry

This section applies to the discharge of **Thickened Tailings Slurry** via an outfall to Brucejack Lake. The site reference number for this discharge is E302910.

1.3.1 The average rate of discharge is 2,700 tonnes per day, 365 days per year.

1.3.2 The authorized works are a tailings pipe to Brucejack Lake, and thickening processes and related appurtenances approximately located as shown on the Site Plan A.

1.3.3 The tailings outfall must never be positioned more than 7.5 metres above lake bottom unless approved by the Director. Lowering of the tailings outfall or installation of additional turbidity curtains specific to the outfall and/or other mitigating measures may be required at the discretion of the Director.

1.3.4 The location of the facilities from which the discharge originates and the point of discharge is the same as Section 1.1.4 above.

1.4 Surface and Underground Waste Rock

This section applies to the disposal of **Surface and Underground Waste Rock** into Brucejack Lake to prevent ML/ARD issues. The site reference number for this discharge is E302956.

1.4.1 The rate of discharge in Brucejack Lake should be as generally specified in Appendix A, or in accordance with any specific restrictions required under the *Mines Act* Permit.

1.4.2 Waste Rock disposal must not proceed unless a minimum of three turbidity curtains are in place across the lake outlet as approximately shown in Site Plan A or equivalent measures as approved by the Director are in place. Additional mitigation measures may be required at the discretion of the Director.

1.4.3 The location of the facilities from which the discharge originates is the same as Section 1.1.4 above.

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1.5 Treated Domestic Wastewater

This section applies to the discharge of **Treated Domestic Wastewater** from the mine operations and camp infrastructure to Brucejack Lake. The site reference number for this discharge is E302911.

1.5.1 The maximum rate of discharge is 150 m^3/day, 365 days/year

1.5.2 The characteristics of the treated effluent must not exceed:

45 mg/L for Total Suspended Solids
45 mg/L for 5 day Biological Oxygen Demand

1.5.3 The Permittee must provide the various plans required under the *Municipal Wastewater Regulation* as well as the formal as built plans for the sewage treatment plant, all of which shall be signed off by a Qualified Professional prior to commencing the discharge of treated domestic effluent.

1.5.4 The location of the facilities from which the discharge originates and the point of discharge is the same as Section 1.1.4 above.

2.1 Lethal Toxicity of the Discharge

The discharge at the Lake outlet must not be acutely or chronically toxic to aquatic organisms. The toxicity testing shall use the following test methods or alternative test methods approved by the Director.

Acute/ Lethal Toxicity - 48 hr Daphnia magna single concentration toxicity test (EPS 1/RM/14 2nd edition, December 2000) .

A lethal toxicity test fails if undiluted effluent results in >50% mortality of Daphnia magna in 48 hours. In the event of a failure, the Ministry must be notified and the test must be immediately repeated using multiple concentrations to determine the 48 hr LC50 for Daphnia magna.

Chronic toxicity - Ceriodaphnia dubia reproduction and survival test (EPS 1/RM/21 2nd edition, February 2007).

Test results must be validated and results must be reported as described in

approved Environment Canada biological test methods as referred to above.

2.2 Maintenance of Works and Emergency Procedures

The Permittee must inspect the authorized works regularly and maintain them in good working order. In the event of a condition or emergency which prevents effective operation of the authorized works, leads to unauthorized discharge, or results in a permit exceedance, the Permittee must:

i. Comply with all applicable statutory requirements, including the *Spill Reporting Regulation*;

ii. Immediately contact the Director or an Officer designated by the Director by e-mail and/or telephone; and,

iii. Take appropriate remedial action for the prevention or mitigation of pollution.

The Director may reduce or suspend operations to protect the environment during a condition or emergency until the authorized works have been restored and/or corrective steps have been taken to prevent unauthorized discharges.

During and/or after the emergency event or condition, the Permittee must conduct appropriate sampling and analysis of discharges, which may be equivalent to or more stringent than the monitoring requirements of this permit and/or applicable statutory requirements. As the results of such sampling become available, the Permittee must provide the results to the Director or a designated Officer. The Director may require additional monitoring or reporting at any time by specifying such in writing to the Permittee.

The Permittee must prepare contingency plans outlining emergency procedures to be undertaken in the event of emergency incidents that may result in a significant release of contaminants to the environment. The Permittee shall review the plan at least on an annual basis to determine if any changes are required and submit any revisions to the Director for approval. Annual reviews and submission of revisions are due on March 31 of each year.

2.3 Construction of Water Management and Pollution Control Works Controlled Bypasses

Plans and specifications of the Construction and Operations Water Treatment Plants and Sewage Treatment Plant and associated works authorized under

Section 1.1, 1.2. 1.3, 1.4 and 1.5 must be certified by a Qualified Professional and retained on site for inspection prior to the commencing any of the discharges from either sources. A Qualified Professional must certify that the works have been constructed in accordance with the plans before discharge commences and a maximum of 45-days following completion of construction.

In addition, the Permittee must provide final signed performance guarantee document as appropriate for the Construction and Operation Water Treatment Plants authorized in Section 1.2.

2.4 Controlled Bypasses

Any bypass of the authorized works is prohibited unless the approval of the Director is obtained and confirmed in writing.

2.5 Process Modifications

The Director must be notified prior to implementing changes to any process that may adversely affect the quality and/or quantity of the discharge. Despite notification under this section, permitted levels specified in Section 1 must not be exceeded.

2.6 Inspection and Maintenance of Water Management Works

All ponds, ditches, runoff or seepage collection, diversion works, flow monitoring weirs and gauges must be inspected at least twice per year, once in spring after freshet and once in fall before freeze-up. Records of inspections must be maintained, and any identified deficiencies in the work must be corrected immediately.

2.7 Temporary Shutdown

In the event of a temporary shutdown in construction and mining activities at the site, the Permittee must notify the Director in writing and must ensure all permit conditions continue to be met.

2.8 Ownership

The Director must be notified of any change in ownership of the works authorized by this permit within 10 business days of an ownership change. Transfers of ownership and this permit do not take effect unless the Director has

consented to it in writing.

2.9 Future Upgrading of Works

The Director may require repair, alteration, removal, improvement or addition to works or construction of new or existing works, and submission of plans and specification for works specified in this authorization.

2.10 Qualified Professionals

All documents submitted to the Director must be signed by the author. Submissions where an opinion or recommendation is expressed regarding data analysis, interpretation, assessment and/or design must be signed by an appropriate Qualified Professional, who in doing so takes professional responsibility for the content of the document. A Qualified Professional is defined as follows:

"Qualified Professional" means an applied scientist or technologist specializing in an applied science or technology applicable to the duty or function including, but not limited to agrology, biology, forestry, chemistry, engineering, geoscience, geology or hydrogeology, and who:

a) is registered in good standing with the appropriate professional organization, is acting under that organization's code of ethics and is subject to disciplinary action by that organization, and

b) Through suitable education, experience, accreditation and knowledge, may be reasonably relied on to provide advice within their area of expertise.

2.11 Special Requirements for Transitioning from Exploration to Construction and Operation Authorizations

The discharge location for Treated Mine Water and Treated Surface Runoff via the exploration Mine Water Treated Plant (MWTP), defined in Section 1.2 of the Permit, will continue to be to Brucejack Creek and the site reference number will remain E298670 until the discharge is redirected to Brucejack Lake. The MWTP discharge must be redirected to Brucejack Lake no later than December 31, 2015, as per plans and specifications required under Section 2.3 of this permit, after which time all requirements relevant to the Construction and Operation Water Treatment Plant stated in this permit will be in effect while Section 2.11 of this permit, as it relates to the exploration MWTP, will be

cancelled.

The discharge from the Treated Domestic Wastewater via the Sewage Treatment Plant (STP) defined in Section 1.5 of the permit, will continue to be to Brucejack Creek and the site reference number will remain E297910 until the discharge is redirected to Brucejack Lake. The STP discharge must be redirected to Brucejack Lake no later than March 31, 2016, as per plans and specifications required under Section 2.3 of this permit, after which time all requirements relevant to the Treated Domestic Wastewater Effluent stated in this permit will be in effect while Section 2.11 of this permit, as it relates to the STP, will be cancelled.

The characteristics of the discharge and monitoring requirements associated to the exploration MWTP and the STP effluents to Brucejack Creek must be equivalent to or better than stated below.

Exploration MWTP (as defined in the approval AE-106251 issued on September 3, 2015 (amended on June 9, 2015 and July 15, 2015))

The maximum rate of the MWTP discharge is 3,270 cubic meters per day.

Parameter	Limit(1)
Total Suspended Solids (TSS)	Maximum: 25 mg/L
Extractable Petroleum Hydrocarbons (EPH) (2)	15 mg/L
pH	6.5 to 8.5 pH units
48 hr *Daphnia magna* single concentration toxicity test	50% Survival in 100% Concentration, Minimum (3)
Nitrite-N	0.60 mg/L (4)
Total Cadmium	0.0001 mg/L
Total Chromium	0.002 mg/L
Total Copper	0.007 mg/L
Total Lithium	1.5 mg/L (5)
Total Silver	0.0006 mg/L
Total Zinc	0.03 mg/L

(1) Maximum allowable concentration in any grab sample
(2) EPH includes HEPH (C19-32) & LEPH (C10-19).
(3) Refer to Section 2.1.
(4) As per Approval amendment letter dated June 9, 2015.

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(5) As per Approval amendment letter dated July 15, 2015.

Monitoring frequency of the discharge is weekly except for toxicity testing which is monthly.

STP (as defined in the MWR Registration 107073 issued on June 1, 2014)

The maximum rate of the STP discharge is 48.3 cubic meters per day.

Parameter	Limit(1)
Total Suspended Solids (TSS)	Maximum: 25 mg/L
5 day Biological Oxygen Demand (BOD)	Maximum: 45 mg/L

(1) Maximum allowable concentration in any grab sample

Receiving environment monitoring for the MWTP and the STP will be accordance with Appendix B.

3. OPERATIONAL REQUIREMENTS

3.1 Source Control of Nitrite and Nitrogen

The Permittee must implement the Nitrogen Source Control Program (NSCP) as documented in Appendix 6-T of the May 2015 application for a permit. The NSCP indicates that the rate of the explosive usage within the mine will be managed using nitrite, nitrate and or ammonia monitoring at the Water Treatment Plant(s) and supplemental in Mine monitoring as necessary to ensure the cumulative Nitrite Limit in Section 1.1 is met. Should monitoring demonstrate significant Nitrite oxidation is occurring within mine, and/or Brucejack Lake, the discharge limits for Nitrite, Nitrate and Ammonia in Section 1.2.3 may be amended accordingly at the discretion of the Director, provided the limit in Section 1.1.1 will still be met.

The Permittee must maintain graphical records of the Nitrite Management and monitoring similar to figure 5.1-1 of Appendix 6-T and update them on a daily basis for inspection at the request of Environmental Protection Staff and submission with the annual reports.

Should Nitrate or Ammonia monitoring determine those parameters to be a higher environmental concern with respect to the limits in Section 1.1, the

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Source Control program must be adjusted accordingly.

3.2 Closure Underground Water Quality Adaptive Management Plan

The Permittee must develop a post closure management plan with the intent of limiting all impacts within Brucejack Creek to the levels equivalent to or less than the operational discharges presently authorized in Section 1.1 of this permit. For clarity, all points downstream, depending where the mine pool water discharges during closure and post closure, should remain below the levels modeled in the Operations base case of May 2015 for site 2.62.

The Plan must assess all available management options including but not limited to: directing mine pool water on closure to the Contact Water Pond to allow for attenuation there, continuing to use the Water Treatment Plant and/or discharging the water where it would have minimal impact. In addition, the plan must include appropriate monitoring, water quality triggers, and management actions to maintain water quality throughout closure and post closure.

The Plan must include all available and updated hydrology, hydrogeology and geochemistry results and propose further work necessary to better define closure and post closure Water Quantity and Quality predictions. An initial Plan submission is due with the annual report in 2020. Subsequent updates with respect to ongoing findings and management options are required every five (5) years or as requested by the Director. The final report must be submitted 2 years prior to closure for the approval of the Director.

3.3 Contact Water Pond levels

The Permittee should manage water levels in the Contact Water Pond to ensure 80% of its capacity is available for storm events. Should the pond exceed that level, the Permittee must notify the Director as to the cause and provide a schedule as to when levels are expected to return to normal, and details of remedial actions if required. Temporary storage of 3 days of untreated mine water in the Contact Water Pond is authorized without notice of the Director unless it triggers the 80% notice threshold. Additional storage beyond 3 days of untreated mine water regardless of level requires notification of the Director.

3.4 Chromium Mitigation Plan

The Permittee must submit the final Chromium (III) and (VI) mitigation plan

discussed in the May 2015 application for the permit to the Director for his/her approval, 180 days prior to disposal of any cemented tailings back into the mine.

Should Chromium levels after treatment in the Water Treatment Plant(s) exceed 10 ug/L, the Permittee shall sample and analyze the discharge to assess the Chromium (III) and (VI) speciation. Those results need to be submitted to the Director within 5 business days of receipt of the lab certificates. If levels are consistently above 10 ug/L for Total Chromium, the speciation should be conducted quarterly.

3.5 Outfall Inspection

The outfall(s) must be inspected once every year to ensure they and all associated piping are in good working order, there are no leaks, no major bends which would erode due to the flow of the tailings slurry, and the height of tailings discharge is in compliance with section 1.1.3 of this permit. The inspection reports must be submitted as part of each annual report unless concerns are noted. In the latter instances, the inspection report accompanied by a mitigation plan should be submitted to the Director with 45 days of completing the inspection. The first report must be completed and submitted prior to commencing any discharge.

3.6 Mine Water Treatment Plant Sludge

The Sludge(s) from the Construction and/or Operation Mine Water Treatment plants must be characterized using appropriate methods within 90 days of commissioning each plant and remain in storage on site until it is determined that:

a) it is not Hazardous Waste under the Hazardous Waste Regulation; and,
b) the proposed disposal option is approved by the Director.

Storage of Water Treatment Plant sludges onsite must not exceed twelve (12) months,unless approved by the Director. Sludge storage must be done in a manner acceptable to the the Director.

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3.7 Reagents

The Mine must maintain records the reagents and volumes used in various water treatment and ore concentration process and submit a list and usage rates with their respective MSDS sheets as part of the annual reporting requirements in Section 5 of this permit.

When commissioning any specific process and or adding/changing reagent(s) the Permittee must compile and submit similar documentation to the Director 15 days prior to their usage.

4. MONITORING REQUIREMENTS

The Permittee must conduct sampling and monitoring as outlined below. The Director may alter the monitoring requirements based on results submitted, requests by the Permittee, as well as any other information obtained by Environmental Protection in connection with the discharges.

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4.1 Surface Water Quality and Flow Monitoring

The Permittee must implement and conduct the Monitoring Program specified in Appendix B of this permit.

General parameters are defined as: pH, Specific Conductivity, Hardness, Alkalinity, Sulphate, Chloride, Fluoride. Calcium, Magnesium, Sodium, Ammonia, Nitrate, Nitrite, Total & Dissolved Phosphorous, Ortho Phosphate, Total & Dissolved Organic Carbon, Total Suspended & Total Dissolved Solids, and Turbidity.

Metals refers to: Low level ICP or equivalent analysis of Total and Dissolved Metals - including Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Cadmium, Chromium, Cobalt, Copper, Iron, lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Uranium, Vanadium and Zinc.

Mercury analysis is required at the Brucejack Lake outlet (BJ3.10), the water treatment plant effluent, the tailings supernatant, site BJ2.62, SCO, BJ 1.74, on a sQuarterly basis. The mercury sampling frequency at site L3 outflow must be during freshet and fall.

sQtr, sQ or sQuarterly refers to shifting Quarterly monitoring as follows:
sQtr 1 is Feb, Mar, & April,
sQtr 2 is May, June & July
sQtr 3 is Aug, Sept & Oct
sQtr 4 is Nov, Dec & Jan

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4.2 Groundwater Quality and Water Level Monitoring

The Permittee must implement and conduct the Groundwater Monitoring Program in Appendix C of this permit at the locations shown in Site Plan D. It is understood the new wells will be as generally shown in Site Plan D as their final siting requires assessing field conditions and other factors. The Permittee will submit final locations, well depths and screened intervals for all new wells a minimum of 60 days prior to construction for the Directors approval. The final proposed locations for Wells P4 and P5 must account for the possibility that the Brucejack fault acts as a barrier to east west groundwater flow and assess the potential flow paths this scenario might generate.

The monitoring frequencies will be as per Appendix C for the first 3 years of mine operations unless the Permittee documents specific safety conditions present at a given well that justifies missing a specific sampling event. After 3 years, the Director may review the Groundwater Monitoring Program subject to the Permittee submitting a full review by a Qualified Professional of the entire program and the first 3 years of data collected.

Well monitoring does not need to include Total and Dissolved Organic Carbon.

4.3 Benthic Invertebrates

The Permittee must implement the benthic invertebrate program as specified in Appendix B using personnel or Qualified Professionals trained in the Environment Canada CABIN protocol. The Cabin protocol is available at: http://ec.gc.ca/rcba-cabin/.

4.4 Sediment Sampling

The Permittee must implement the sediment program as specified in Appendix B using personnel or Qualified Professionals trained in the procedures

The Program must analyze biologically relevant fine sediments less the 63 µm in size for Total Metals and Total Organic Carbon. The total metals analysis shall include Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Uranium, Vanadium and Zinc.

4.5 Quality Assurance Quality Control (QA/QC)

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Permittee must implement and conduct a Quality Assurance and Quality Control Plan and procedures on an ongoing basis for all aspects of the monitoring requirements. Laboratory quality assurance reports and related QA/QC findings and must be made available to Environmental Protection Staff upon request and incorporated into each Annual Report.

4.6 Sampling and Analytical Procedures

Sampling must be carried out in accordance with procedures described in the latest editions of the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air Emissions, Water, Waste Water, Soil, Sediment and Biological Samples". Suitable alternative procedures may also be used if authorized by the Director in writing

With respect to Groundwater sampling protocols; the Permittee must submit the monitoring protocols for review and approval of the Director by September 30, 2015. The protocols and any modifications shall be incorporated into each annual report.
Analyses are to be carried out in accordance with procedures described in the "British Columbia Laboratory Manual (2009 Permittee Edition)", or the most recent edition, or by suitable alternative procedures as authorized by the Director

Copies of theses manuals may be purchased from the Queen's Printer Publications Centre, P. O. Box 9452, Stn. Provo Gov't. Victoria, British Columbia, V8W 9V7 (1-800-663-6105 or (250) 387-6409) or via the internet at www.crownpub.bc.ca. Copies of the manuals are also available for review at the Regional Environmental Protection offices.

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5. REPORTING REQUIREMENTS

5.1 Reporting of Monitoring Results

Field and laboratory monitoring results, including a summary of non-compliances, exceedances of Water Treatment Plant concentrations specified in Section 1.2.3 and corrective actions taken, must be submitted within 30 days of the end of the quarter in which the monitoring occurred. Submissions are to be in tabulated and/or graphical formats approved by the Director and will include an assessment of compliance with the monitoring requirements under Section 4 and interpretation comments.

5.2 Annual Report and Evaluation

The Permittee must submit a comprehensive annual report to the satisfaction of the Director, in a format suitable for public release, by March 31st of each year. The annual report must include but not be limited to:

(a) an overview of the previous year's operational and monitoring activities and a summary of activities planned in the upcoming year
(b) an evaluation of the impacts of construction and mining activities on the receiving environment;
(c) a comparison of monitoring data, including acute and chronic toxicity results, with permit limits, water quality guidelines and water quality modelling predictions;
(d) a summary of compliance with the monitoring requirements stated in Section 4;
(e) a summary of all non-compliances with the permit and other incidents that may have led to impacts to the receiving environment including, when applicable, corrective actions identified and mitigation efforts employed by the mine;
(f) a summary of all surface and groundwater monitoring results and hydrometric monitoring data for the previous year, including tables and graphs where appropriate to indicate trends in key water and groundwater quality parameters;
(g) an assessment of the quality of all submitted data, including all information required to support the assessment;
(h) flow measurements and discharge rates data for all authorized discharges, estimates of the amount and type of chemical additions including MSDS's (flocculants and chemicals used in the water treatment plants and mill for ore processing and tailings thickening

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process);

(i) results of receiving environment monitoring, including analyses of key water quality trends and biological monitoring;
(j) results of any additional hydrogeological investigation and assessment work and updates to the groundwater model for the site;
(k) results and analyses of ongoing review of the site water quality predictions and source terms, water balance and water management at the site;
(l) results of ongoing ML/ARD chemistry studies.

The annual report must be made available to the Ministry of Energy and Mines, the Tsetsaut/Skii Km Lax Ha First Nation, the Tahltan Nation (as represented by the Tahltan Central Council), the Nisga'a Nation, through Nisga'a Lisims Government and the Alaska Department of Natural Resources.

5.3 Spill Reporting

Releases to the environment not authorized by this permit must be reported to the Provincial Emergency Program at 1-800-663-3456 as required by the Spill Reporting Regulation. A copy of the regulation is presently available at: http://www.bclaws.ca/Recon/document/ID/freeside/46_263_90.

Note that item 24 of the Schedule attached to the Regulation specifically includes spills of 200 kg and/or Liters of "*any substance that can cause pollution*" in addition to the other more stringent limits specified for other materials.

5.4 Non-Compliance and Water Treatment Plant Exceedances Notifications

The Permittee must immediately notify by facsimile 250-847-7591 or email the Director or designate of any non-compliance with the requirements of this permit and take appropriate remedial action. Written confirmation of all non-compliance events, including available test results is required within 24 hours of the original notification unless otherwise directed by the Director.

Exceedances of Water Treatment Plant discharge concentrations specified in Section 1.2.3 and Section 2.9 of this permit are subject to the same notification requirements as described above.

Written notification is also required to the Tsetsaut/Skii Km Lax Ha First Nation, the Tahltan Nation (as represented by the Tahltan Central Council),

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the Nisga'a Nation, through Nisga'a Lisims Government and the Alaska Department of Natural Resources.

5.5 Non-Compliance and Water Treatment Plant Exceedances Reporting

For any non-compliance with the requirements of this permit, the Permittee must submit a written report within 30 days of the non-compliance occurrence. The report must include, but is not necessarily be limited to, the following:

(a) all relevant test results related to the noncompliance;
(b) an explanation of the most probable cause(s) of the noncompliance;
(c) remedial action planned and/or taken to prevent similar noncompliance(s) in the future.

Exceedances of Water Treatment Plant discharge concentrations specified in Section 1.2.3 and Section 2.9 of this permit are subject to the same reporting requirements as described above.

Reporting is also required to the Tsetsaut/Skii Km Lax Ha First Nation, the Tahltan Nation (as represented by the Tahltan Central Council), the Nisga'a Nation, through Nisga'a Lisims Government and the Alaska Department of Natural Resources.

5.6 Electronic Submission of Data into EMS

The Permittee must electronically submit all the data collected under this permit into the Environmental Management System (EMS) database on a quarterly basis.

6. MINE DATA AND WATER QUALITY MODELLING REVIEW

Every five years during the operating life of the mine, or as required by the director in the event of significant changes with respect to monitoring results, production rates and or other factors, the Permittee must conduct a review of the environmental monitoring required under this permit and reassess the predictive modelling with respect to the environmental impacts.

The review must be conducted by independent, third party Qualified Professionals. The Qualified Professional must consider all the available data and any other information available to the Permittee or Ministry of

Environment staff. Each review will recommend what actions or permit amendments, if any, are advisable to limit impacts from the current or future activities at the mine site on the receiving environment and to ensure compliance with permit requirements.

The Director shall consider these recommendations and may make amendments to the permit and/or the environmental monitoring plan that the Director considers necessary for the protection of the environment.

A report summarizing the results of a five-year review must be submitted to the Director by **June 30th** of the year in which the review is required. The first five-year review report is due on **June 30, 2020**.

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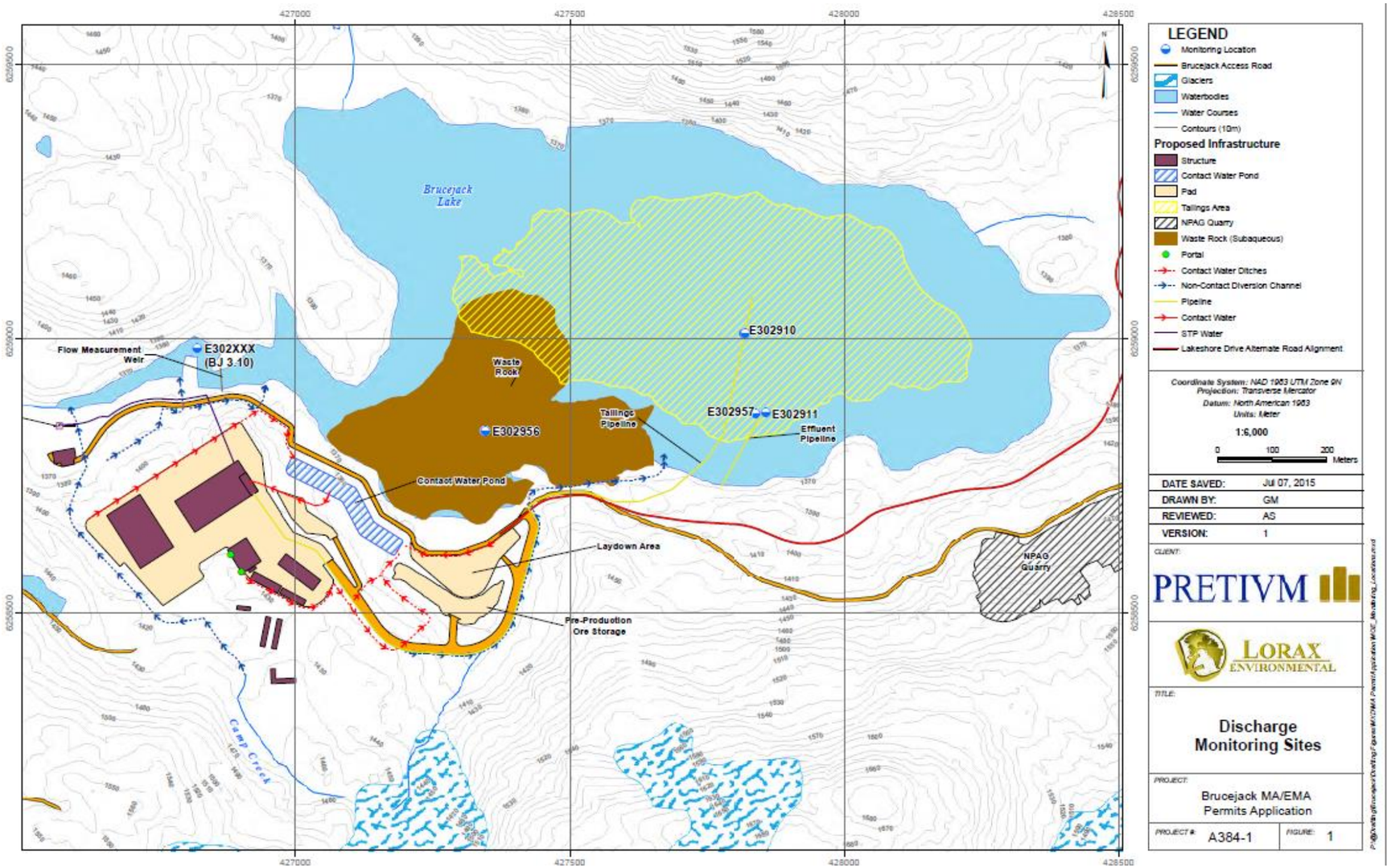
Site Plan A - Mine Site Infrastructure and general layout including Diversion and Collection Channels



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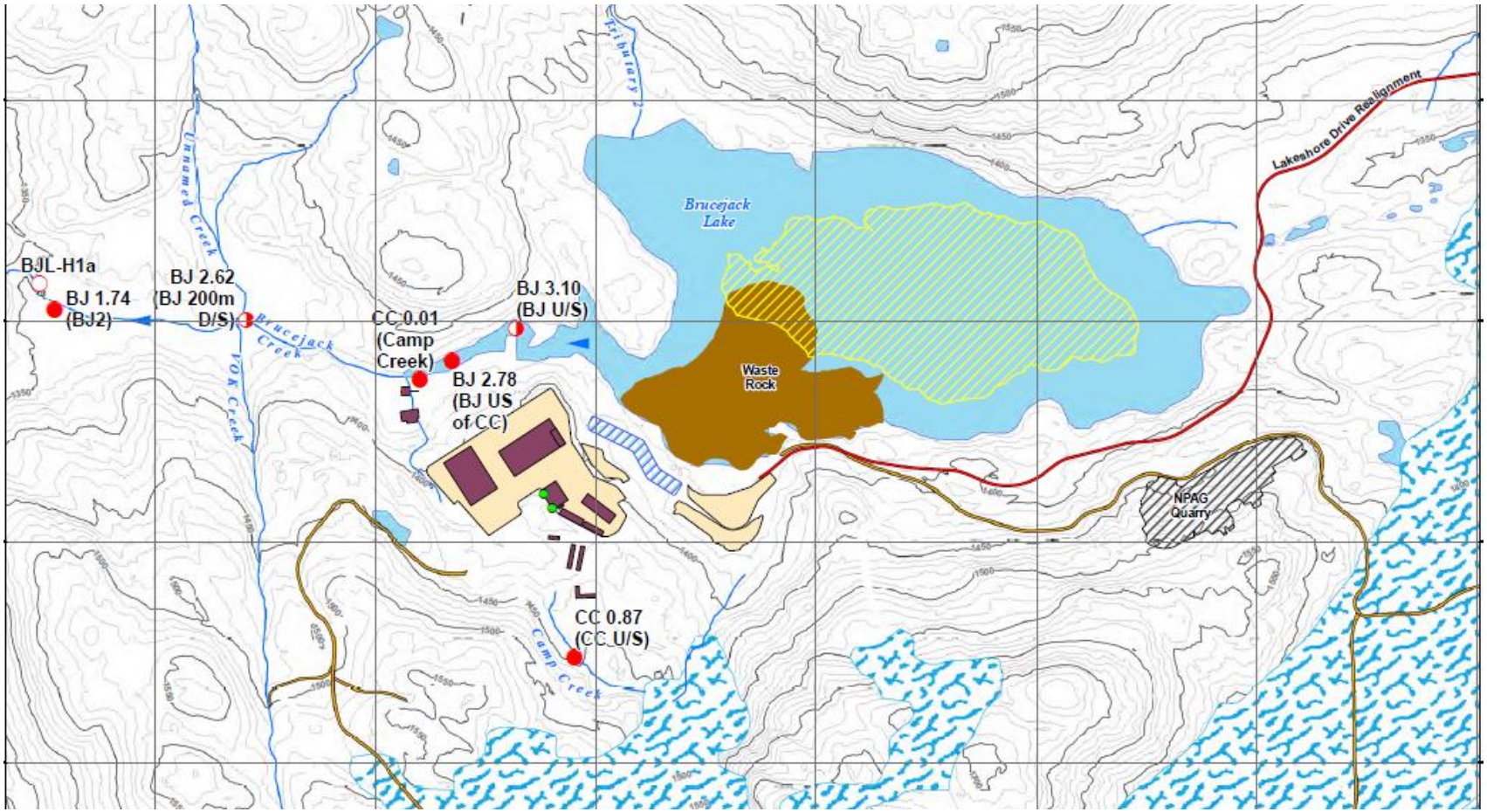
Site Plan B - Near Field Surface Water (Red markers) and Flow (White markers) Monitoring Sites



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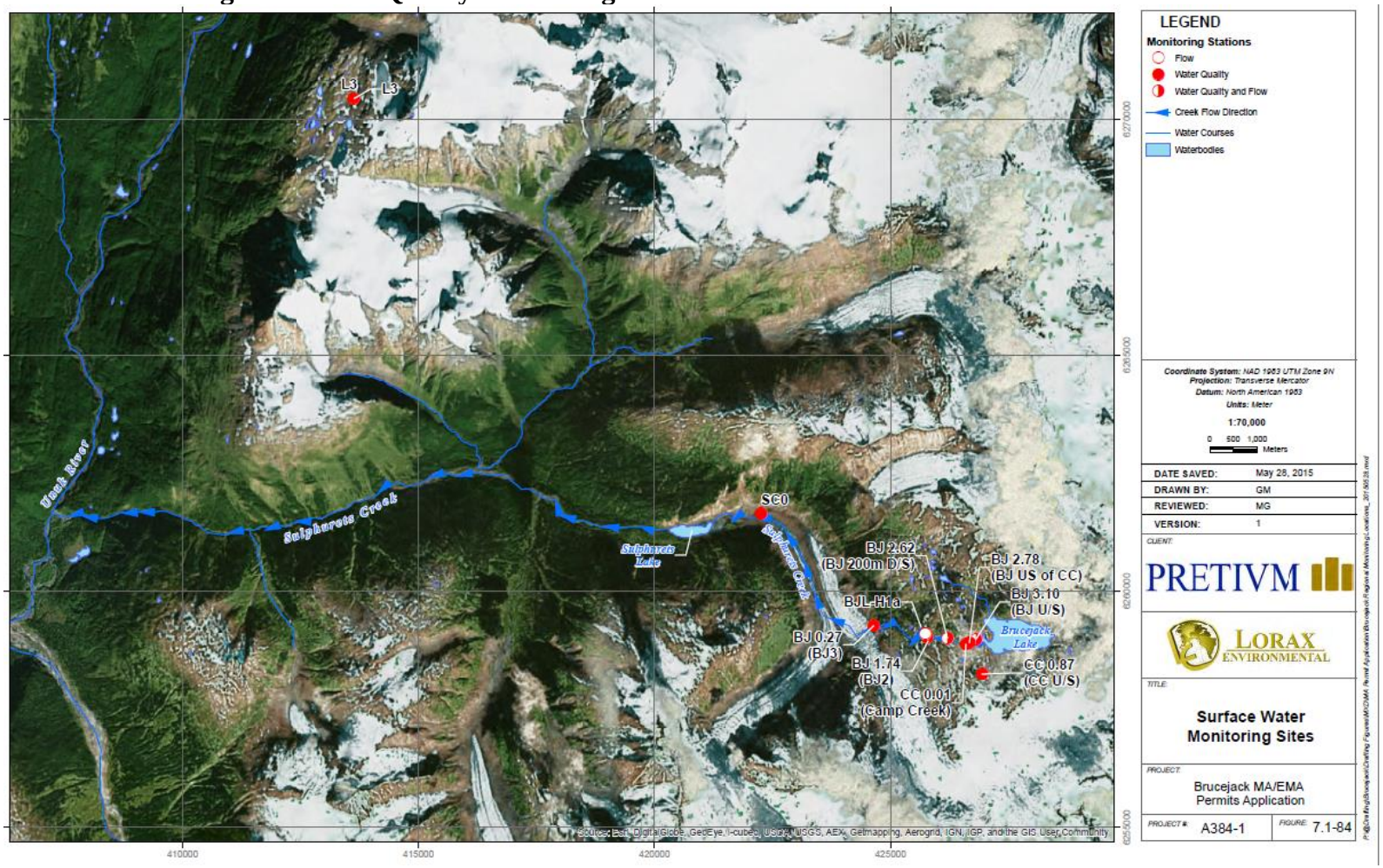
Site Plan C - Regional Water Quality Monitoring Sites



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Site Plan D - Groundwater Monitoring Sites & Mine Infrastructure

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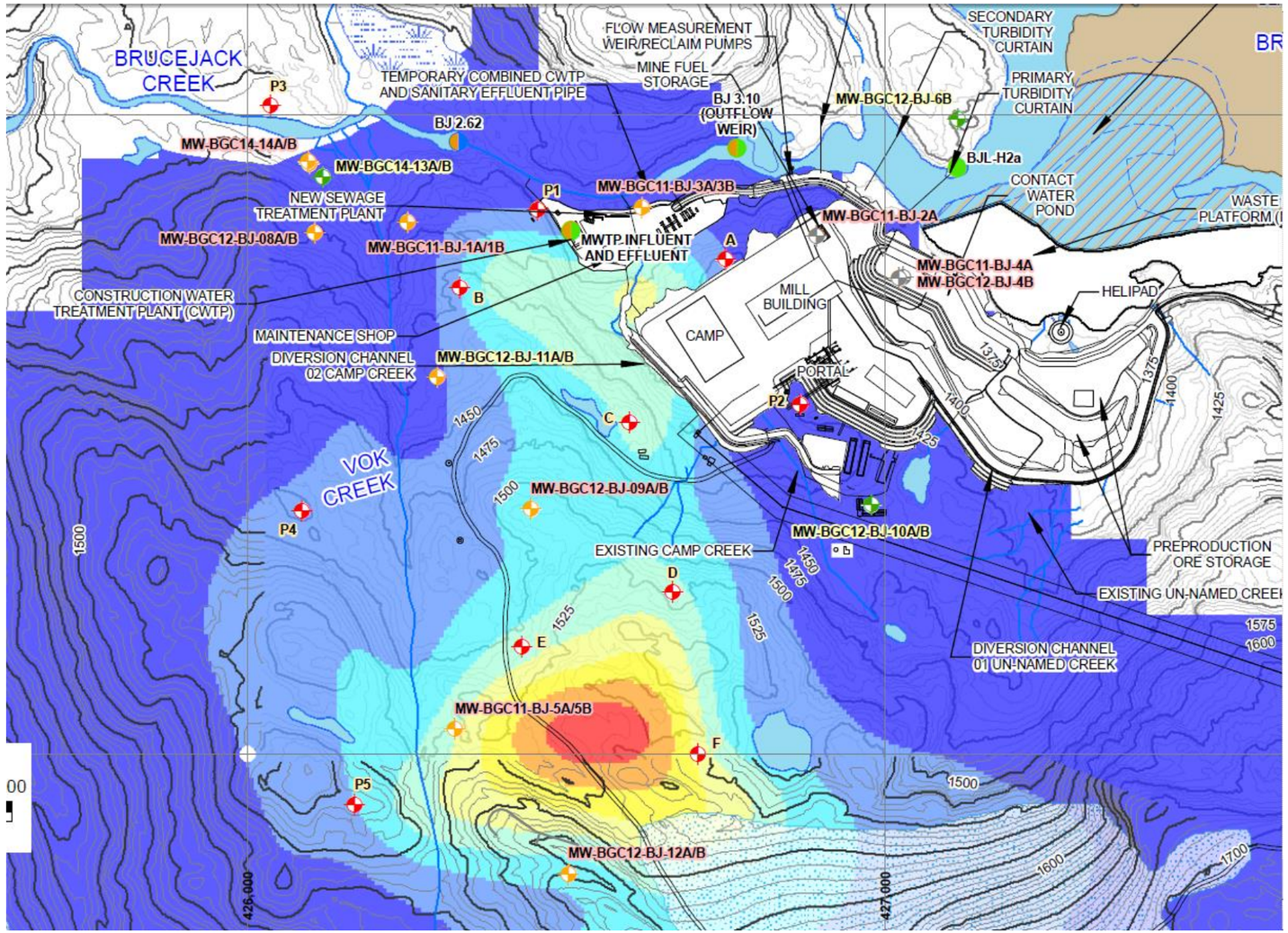

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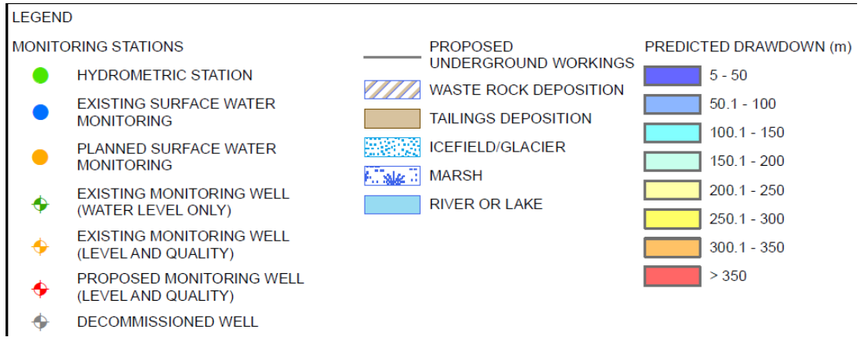

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Appendix A – Waste Rock Deposition Schedule for Section 1.3 of the Permit

Table 7.2-1. Cumulative (Swollen) Waste Rock Volumes for Deposition in Brucejack Lake

	In-Situ			Swollen		
Year	Civil Infrastructure Waste ('000 t)	UG Waste to Surface ('000 t)	Total Waste Rock to Lake ('000 t)	Civil Infrastructure Waste ('000 m³)	UG Waste to Surface ('000 m³)	Total Waste Rock to Lake ('000 m³)
-2	2,745	500	3,245	1,332	241	1,573
-1	3,392	1,086	4,478	1,645	524	2,169
1	3,392	1,409	4,801	1,645	679	2,324
2	3,392	1,568	4,960	1,645	756	2,401
3	3,392	1,779	5,171	1,645	858	2,503
4	3,392	1,896	5,288	1,645	914	2,559
5	3,392	2,048	5,439	1,645	987	2,632
6	3,392	2,088	5,480	1,645	1,006	2,651
7	3,392	2,096	5,488	1,645	1,010	2,655
8	3,392	2,115	5,507	1,645	1,020	2,665
9	3,392	2,189	5,581	1,645	1,055	2,700
10	3,392	2,227	5,619	1,645	1,074	2,719
11	3,392	2,279	5,671	1,645	1,099	2,744
12	3,392	2,283	5,675	1,645	1,101	2,745
13	3,392	2,283	5,675	1,645	1,101	2,745
14	3,392	2,283	5,675	1,645	1,101	2,746
15	3,392	2,284	5,676	1,645	1,101	2,746
16	3,392	2,285	5,676	1,645	1,101	2,746
17	3,392	2,285	5,677	1,645	1,102	2,746
18	3,392	2,285	5,677	1,645	1,102	2,747
Total	**3,392**	**2,285**	**5,677**	**1,645**	**1,102**	**2,747**

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Appendix B – Surface Water Quality Monitoring Requirements

Sample Site Name	Location	EMS #	Field Turbidity (NTU) , pH, Nitrite	Metals & General	Flow Rate / Staff Gauge	5 in 30 days	Toxicity	Sediment	Peripyhton	Benthic Invertebrates
Weir at 3.10	Weir at Brucejack Lake Outlet	E298312	Daily for Turbidity & pH Conductance	Weekly	Continuous flow with manual checks quarterly	Freshet & Fall	Monthly for the construction period and Quarterly for operation Acute & Chronic *Daphnia*	Fall Low Flow annually	Fall Low Flow Chlor-a Abund. &Tax	Annually @ Fall Low Flow
CC 0.87	Camp Crk US mine site	E298331		Monthly						
CC0.01	Camp Crk DS mine site at mouth	E298334		Monthly						
BJ 2.62	Brucejack Crk just US of VOK Crk	E298332	Daily for Turbidity Conductance and pH	Monthly	Continuous flow with manual checks 2x/winter 4x/Summer @ low flow and no precip.	Freshet & Fall		Fall Low Flow annually	Fall Low Flow Chlor-a Abund. & Tax	Fall Low Flow 1x/3yrs
BJ 1.74 & BJL-H1a	Brucejack Crk approx. 1.4km ds lake outlet	E298333		Monthly sQ 2&3 otherwise Quarterly	Manually 4x/Summer @ low flow and no Precip.			Fall Low Flow 1x/3years	Chloro-a only Fall Low Flow	Fall Low Flow 1x/3yrs
SC0	Sulphurets Crk approx 8 km DS Mine Site see Site Plan C	E303050		sQuarterly		Freshet & Fall 1x/3 years		Fall Low Flow 1x/3years	Chloro-a only Fall Low Flow 1x/3yrs	Fall Low Flow 1x/3yrs
L3 outflow	reference site approx 20 Km to the NW see Site Plan C	E303051		sQuarterly		Freshet & Fall 1x/3 years		Fall Low Flow 1x/3years	Fall Low Flow Chlor-a, Abund & Tax 1x/3yrs	Fall Low Flow 1x/3yrs
WTP Influent	In plant prior to treatment	E303052	Continuous	2x/month	continuous flow					
WTP Effluent	After treatment prior to lake discharge	E302957	Continuous	2x/month	continuous flow					
Tailings Supernatant	After thickening prior to outfall	E302910		Monthly	Cumulative flow/day					
Treated Domestic Effluent	After treatment prior to outfall	E302911		Quarterly BOD & TSS only	Cumulative flow/day					
CWP Influent	In contact Water Pond	E303053		2x/month sQtr 2 & 3 otherwise monthly	Staff gauge 2x/week and daily volumes of any interim mine water storage flows					

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Appendix C – Groundwater and Mine Water Monitoring Requirements

Underground flow: the Permittee must maintain a weekly underground water balance accounting for all water in storage, water entering and exiting each portal. This water balance will be based on daily totalized volumes for each portal.

Well # on Site Plan D	EMS #	Water level	Metals & General	Additional Requirements
MW-BGC12-BJ-8A/B	E303059	continuous	sQuarterly	
MW-BGC14-BJ-14A/B	E303065	continuous	sQuarterly	
MW-BGC14-BJ-13A/B	E303064	continuous	-	
MW-BGC11-BJ-2A	E303055	continuous	sQuarterly	sample until decommissioned or New Well @ A installed
MW-BGC11-BJ-3A/B	E303056	continuous	sQuarterly	replace in immediate vicinity if disturbed (retain EMS id)
MW-BGC11-BJ-4A/B	E303057	continuous	sQuarterly	
MW-BGC11-BJ-1A/B	E303054	continuous	sQuarterly	
MW-BGC12-BJ-10A/B	E303061	continuous	-	
MW-BGC12-BJ-11A/B	E303062	continuous	sQuarterly	
MW-BGC11-BJ-5A/B	E303058	continuous	sQuarterly	
MW-BGC12-BJ-12A/B	E303063	continuous	sQuarterly	
MW-BGC12-BJ-9A/B	E303060	continuous	sQuarterly	
New well @ A	E303066	continuous	sQuarterly	Install by December 31, 2018
New well @ B	E303067	continuous	sQuarterly	Install by December 31, 2018
New well @ C	E303068	continuous	sQuarterly	Install by December 31, 2018
New well @ D	E303069	continuous	sQuarterly	Install by December 31, 2018
New well @ E	E303070	continuous	sQuarterly	Install by December 31, 2018
New well @ F	E303071	continuous	-	Install by December 31, 2018
New Well @ P1	E303556	continuous	sQuarterly	*Submit installation plan 2 years prior to closure*
New Well @ P2	E303557	continuous	sQuarterly	*Submit installation plan 2 years prior to closure*
New Well @ P3	E303558	continuous	sQuarterly	*Submit installation plan 2 years prior to closure*
New Well @ P4	E303559	continuous	sQuarterly	Install by December 31, 2018
New Well @ P5	E303560	continuous	sQuarterly	Install by December 31, 2018

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